CHAPTER 8, FORM B
TRIGONOMETRY

NAME _____
DATE _____

1. True or false: 2 is a complex number. 1. _____

2. Write $\sqrt{2}+\sqrt{-36}$ in standard form. 2. _____

3. Evaluate: $i^2 \cdot i^3 \cdot i^4 \cdot i^5$. 3. _____

Perform the indicated operations. Write answers in standard form.

4. $\dfrac{-2+5i}{3+i}$ 4. _____

5. $(4+5i)^3$ 5. _____

6. $\dfrac{3(\cos 150^\circ + i \sin 150^\circ)}{4(\cos 60^\circ + i \sin 60^\circ)}$ 6. _____

7. $(2 \text{ cis } 45^\circ)^4$ 7. _____

Solve each equation.

8. $3x^2+2x=-5$ 8. _____

9. $x^3-27=0$ 9. _____

10. $x^2=1+2i\sqrt{2}$ 10. _____

11. Write $13(\cos 120^\circ + i \sin 120^\circ)$ in standard form. 11. _____

12. Write $2\sqrt{2}-2i\sqrt{2}$ in trigonometric form. 12. _____

13. Find all cube roots of –27. Express answers in standard form. 13. _____

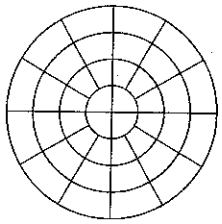
14. Find all complex fourth roots of – 64. Express answers in trigonometric form. 14. _____

15. Write an equivalent equation in rectangular coordinates for $r = 3$. 15. _____

16. Write an equivalent equation in polar coordinates for $x = 2$. 16. _____

17. Graph: $r^2 = 4\cos 2\theta$, for θ in $[0, 360°)$.

17.



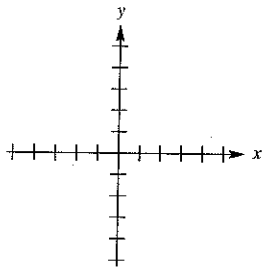
18. Write a rectangular equation for the plane curve with the following parametric equations:

$x = 4t$, $y = \sqrt{2t-1}$, for t in $[1, 5]$.

18. _____

19. Graph: $x = t^2$, $y = t$, for t in $[-2, 2]$.

19.



20. Show that the graph of $x = 3 \sin t$, $y = 3 \cos t$, for t in $[0, 2\pi)$, is a circle centered at the origin with radius 3.

20. _____